IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	§	Examiner: Chou, Alan S
Bala Dutt	§	Group Art Unit: 2151
Ajay Kumar	§	Atty. Dkt. No.: 5681-14900
Venugopal Rao K	§	
Sankara R. Bhogi	§	
Srinivasan Kannan	§	
	§	
Serial No. 10/655,346	§	
	§	
Filed: September 4, 2003	§	
	§	
For: Identity for Data Sources	§	
	§	

REPLY BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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Sir/Madam:

This brief is in reply to the Examiner's Answer mailed January 15, 2010. Appellants respectfully request that this Reply Brief be entered pursuant to 37 C.F.R. § 41.41 and considered by the Board of Patent Appeals and Interferences.

REPLY

First Ground of Rejection:

The Office Action rejected claims 1-5, 8-11, 12, 15-18 and 21-23 under 35 U.S.C. § 103(a) as being unpatentable over Ng (U.S. Patent 6,411,956) in view of Felt et al. (U.S. Patent 7,080,119) (hereinafter "Felt"). Appellants respectfully traverse this rejection for at least the following reasons.

Claims 1, 3-5, and 8-11:

1. Ng in view of Felt clearly fails to teach or suggest *an application server that comprises: an application configured to initiate requests for connections with a plurality of distinct data resources; a plurality of data sources configured to provide connections with the plurality of distinct data resources; and wherein the application server is configured to associate an identity with each of the plurality of data sources and to use the identity to determine whether one of the plurality of data sources provides connections to the same data resource as another of the plurality of data sources.*

The Final Office Action refers to Ng's disclosure at lines 10-17 of column 4. The cited text accompanies Figure 7, which presents a flow chart for the operation of Ng's adapter 523, described in the first paragraph of column 4 with reference to Figure 6 and table 60, a table maintained by adapter 523. Table 60 maps global transaction identifiers to corresponding physical connections to a single database 601. According to Ng, instead of creating a new physical database connection whenever one of the components of a transaction requests a connection to database 601, Ng's adapter looks to see if there is already an existing connection to database 601 made by some component of the same transaction. For this purpose, Ng consults table 60. If an existing connection to the *same* database 601 for the *same* transaction is found, the requesting component is directed to use the existing connection. Even if an application requests multiple connections to the

same database for the same transaction, all database access through those connections would actually be redirected to the same physical database connection as maintained in the table. This allows all the work can be coordinated under the same transaction [column 3, lines 40-49]. The point of the description in both the cited paragraph and the preceding paragraph is to have work performed by different components automatically grouped under same transaction. The connections shown in table 60 are made with respect to a **single database** 601. Ng does not teach *a particular application that is configured to initiate requests for connections with a plurality of distinct data resources* (multiple distinct databases). In fact, the Examiner's Answer acknowledges this fact at paragraph 2 on page 4: "Ng does not disclose expressly the use of distinct data resources."

Nevertheless, the Examiner's Answer continues to assert that Ng teaches *a particular application that is configured to initiate requests for connections with a plurality of distinct data resources*, now citing as evidence the first paragraph of column 4. However, the cited paragraph states that, instead of immediately opening a connection to the **single database** 601 when a component 602 makes a request, the component is given a virtual connection that is not actually connected to database 601. When the component attempts to access the virtual connection, the virtual connection is then dynamically wired using a corresponding physical connection to database 601 as shown in table 60 [column 4, lines 20-22]. Even if an application requests multiple connections to the **same database** for the same transaction, all database access through those connections would actually be redirected to the same physical database connection as maintained in the table [column 3, lines 43-47]. The entirety of the first two paragraphs of column 4 is thus directed to having work performed by different components automatically grouped under same transaction, where the connections are wired to a **single database** 601. There is no suggestion that *a particular application is configured to initiate requests for connections with a plurality of distinct data resources* (with multiple distinct databases).

The Examiner's Answer asserts that the first paragraph of column 4 discloses "the Java Database Connectivity or JDSC application server assigning a global transaction identification with each transactions and associating each data source with an identifier." In reality, the cited paragraph simply refers to table 60 of Figure 6, which maps global transaction identifiers to their corresponding physical connections to a single database 601.

The Final Office Action refers to Ng's table 60 and the associated first paragraph of column 4 as teaching *a plurality of data sources of an application server that are configured to provide connections with the plurality of distinct data resources*. Appellants note the distinction drawn in Appellants' claims between data **sources** and data ***re*sources**. As explained above, Ng's table 60 lists global **transaction identifiers** and corresponding **physical database connections** to a single database *resource* 601. *See* Figure 6. Ng's global **transaction identifiers** are not *a plurality of* ***data sources*** *in an application server that perform the function of providing connections with a plurality of distinct data resources*. Ng's global transaction identifiers simply identify various transactions whose components live in a single process. Ng states "The present invention is somewhat limited, however. In order for the present invention to work, the components must live in the same process or Java Virtual Machine, otherwise they are unable to share the same physical connection [column 4, lines 28-32, emphasis added]." Ng's table is just a table that associates transactions listed in the left column with corresponding physical connections to a single database listed in the right column. The mapped transactions and the physical connections to the single database do not constitute *a plurality of data sources in an application server that perform the function of providing connections with a plurality of distinct data resources*. The components of a transaction *request* connections to a data resource. Neither the listed transactions nor their components are *a plurality of data sources in an application server that perform the function of providing connections with a plurality of distinct data resources*. The physical database connections to the single database 601 *are* the actual connections themselves to the single data resource. Nothing in table 60 or elsewhere in Ng teaches *a plurality of data sources in an application server that perform the function of providing*

connections with a plurality of distinct data resources. The Examiner's Answer fails to make any response regarding this aspect of Appellants' claim 1.

The Final Office Action refers to Ng at column 4, lines 15-27 regarding ***the application server is configured to associate an identity with each of the plurality of data sources and to use the identity to determine whether one of the plurality of data sources provides connections to the same data resource as another of the plurality of data sources***. The cited lines in the second paragraph of column 4 concern a component which attempts to connect with database 601, indicating that when a component of a transaction actually attempts to access a virtual connection to database 601, the virtual connection is then dynamically wired using the corresponding physical connection to database 601 found in table 60 [column 4, lines 20-22]. Even if an application requests multiple connections to the same database for the same transaction, all database access through those connections would actually be redirected to the same physical database connection as maintained in the table [column 3, lines 43-47]. The table in Ng associates a *transaction identifier* with an actual connection to database 601, not with a data source of an application server that provides the connections to multiple distinct data resources. Moreover, the transaction identifiers themselves are not data sources in an application server that perform the function of providing connections with *a plurality of distinct data resources* (databases). As shown above, the transaction identifiers listed in table 60 simply identify various transactions whose components live in a single process. Ng does not use table 60 to determine whether ***one*** of multiple data sources already functions to provide connections to the same data resource as ***another*** of the multiple data sources does. Ng uses table 60 simply to locate a transaction identifier to match a transaction whose component is requesting a connection. Nor does Felt, whether considered alone or in combination with Ng, teach these aspects of Appellants' claim 1. **The Examiner's Answer fails to make any response regarding this aspect of Appellants' claim 1.**

For at least these above reasons, a *prima facie* rejection has not been established.

2. Ng in view of Felt clearly fails to teach or suggest *wherein each identity is unique to one of the plurality of distinct data resources, and wherein multiple ones of the data sources have the same identity*.

Ng does not teach that the data source identities are each *unique* to one of the plurality of distinct data ***re***sources, i.e., that each data *source identity* corresponds to *exactly one* of the plurality *of distinct data **re**sources*. Neither does Ng teach that multiple ones of the data sources have the *same* identity, so that, as a logical consequence, multiple ones of the *data sources* are associated by their identities with the very same *single data **re**source* out of the plurality of distinct data ***re***sources, and with no other data ***re***source. The Examiner seems to rely on Felt to remedy these deficiencies in the teaching of Ng. On page 3 of the Final Action, the Examiner admits that "Ng does not disclose expressly the use of distinct resources and use of an identifier to delegate the task to a distinct data sources," but claim 1 does not recite "the use of distinct resources and use of an identifier to delegate the task to a distinct data sources." Moreover, the cited paragraph of Felt beginning at line 60 of column 8 describes a plurality of servers which receive a client transaction, where one of the plurality of servers is selected to handle transaction commit processing and to communicate the result of the transaction commit process to the client process. **The Examiner makes no attempt to explain how this teaching of Felt allegedly relates to the limitations recited in Appellants' claim 1.** There is nothing in the cited text that even remotely suggests that the data source identities are each unique to exactly one of the plurality of distinct data ***re***sources, i.e., that each data *source identity* corresponds to *exactly one* of the *plurality of distinct data **re**sources*, nor that multiple ones of the data sources have the *same* identity, so that, as a logical consequence, multiple ones of the *data sources* are associated by their identities with the very same *single data **re**source* out of the *plurality of distinct data **re**sources*, and with no other data resource. The Final Action assertion of Felt's allegedly teaching "the delegation of a commit server and participating server from a plurality of servers to fulfill the request of the client request in a JDSC network environment" has no bearing whatsoever on this aspect of Appellant's claim 1.

The Advisory Action refers to Felt's "Background of the Invention" section, citing text in column 6. The cited text contrasts distributed transactions with local transactions, and describes participants in distributed transactions, including a transaction manager. The Advisory Action makes the unsupported and irrelevant assertion that the working of a standard transaction manager as described in Felt's background section "has the same function of determining unique data as claimed." **The Examiner completely ignores the actual wording of the claim**. Nothing in Felt even remotely suggests that the data source identities are each unique to exactly one of the *plurality of distinct data **re**sources*, i.e., that each data *source identity* corresponds to *exactly one* of the *plurality of distinct data **re**sources*, nor that multiple ones of the data sources have the *same* identity, so that, as a logical consequence, multiple ones of the data *sources* are associated by their identities with the very same single *data **re**source* out of the *plurality of distinct data resources*, and with no other data **re**source, as recited in claim 1. In fact, neither reference teaches these aspects of Appellants' claim 1. Therefore, whether taken individually or in combination, Ng and Felt do not teach the limitations of Appellants' claim 1.

The Examiner's Answer asserts that "Felt teaches the use of single identity with a Transaction Manager that delegates task to multiple Resource Managers" and that "Felt discloses a multiple data sources or Resource Managers are accessed through a single Transaction Manager," citing text at lines 30-42 of column 6. The cited text is completely irrelevant to what is actually recited in Appellants' claim 1. **The Examiner has ignored the actual wording of Appellants' claim 1**, which recites that the data source identities are each *unique* to one of the plurality of distinct data **re**sources, i.e., that each *data source identity* corresponds to *exactly one* of the *plurality of distinct data **re**sources*, and that multiple ones of the data sources have the *same* identity, so that, as a logical consequence, multiple ones of the *data sources* are associated by their identities with the very same single *data **re**source* out of the *plurality of distinct data resources*, and with no other data **re**source. What Felt actually teaches is a process in which a client initiates a transaction involving several servers, where one of the servers is designated as the "commit server" for the transaction. The "commit server" gets a commit request

from the client, and then commits that transaction to the servers specified as part of the transaction context. *See* Figure 2 and column 10, lines 9-45. This teaching of Felt has absolutely bearing on the limitations in Appellants' claim 1 under present consideration. **The Examiner's Answer fails to address the actual wording of Appellants' claim 1.**

For at least these above reasons, a *prima facie* rejection has not been established.

3. The Examiner has failed to provide a proper reason to combine the references.

The intended purpose of Ng pertains to a system that does *not* have a JDBC 2.0 Standard Extension implementation, and Ng requires that all the components of a transaction must be part of the same process in order for the method to work [column 3, lines 30-34; column 4, lines 28-33]. Ng explicitly provides "limited distributed transaction support using JDBC 1.0 drivers, without the need for a JDBC 2.0 Standard Extension compatible driver" because "support for the JDBC 2.0 Standard Extension API … is optional and many databases only provide JDBC 1.0 drivers. The JDBC 1.0 drivers do not include distributed transaction support as defined in the JDBC 2.0 Standard Extension." *See* column 1, lines 44-51. The very title of Ng's patent is "Method for distributed transaction support using JDBC 1.0 drivers." Ng explicitly seeks "limited JDBC 2.0 Standard Extension driver compatibility" "using standard JDBC 1.0 drivers." *See* Abstract. Ng states categorically that because "many databases have not provided a commercial JDBC 2.0 driver," "the present invention provides an **interim solution** that will provide limited distributed transaction support using existing JDBC 1.0 drivers [column 3, lines 30-34, emphasis added]." Ng continues to stress this theme throughout the disclosure, writing at column 4, line 28 that "The present invention is somewhat limited, however. In order for the present invention to work, the components must live in the same process or Java Virtual Machine, otherwise they are unable to share the same physical connection. **An actual JDBC 2.0 Standard Extension implementation would not have this restriction. Since not all databases have the capability to support multiple connections for a single transaction, the present invention allows these**

databases, in a limited way, to achieve the same results without having a sophisticated JDBC driver [emphasis added]."

Ng's teachings are thus specific to systems ***not supporting*** JDBC 2.0 with its Standard Extension API support for distributed transactions using the standard two-phase commit protocol. **Therefore, Ng's teachings purposefully do not apply to allowing multiple JDBC connections to multiple databases under the same global transaction.**

The Final Office Action proposes incorporating Felt's "distinct data resources" into Ng, alluding to two-phase commit protocol for distributed transactions that is supported by the JDBC 2.0 Standard Extension API. However, **the whole point of Ng's teachings is to take requests for multiple connections with the same database and redirect them to a single physical connection to that same database, where the requests are all made by components of the same transaction, thus skirting the normal JDBC 1.0 limitations in this regard.** As Ng himself makes abundantly clear, there would be no point in doing this if support allowing multiple connections to multiple databases under the same global transaction were available, as it is when JDBC 2.0 Standard Extension is available. Imposing Felt's architecture upon Ng would render Ng's method unsatisfactory for its intended purpose. Thus, there is no suggestion or motivation to make the proposed modification of Ng. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In spite of Ng's clarity on these points, and in spite of Appellants' clear exposition of them, the Examiner's Answer persists in ignoring them, and **actually goes so far as to assert that because JDBC 1.0 and JDBC 2.0 drivers are both well known, they "could easily be interchanged."** As is made clear by Ng, this is simply not the case.

In a system that supports true global transactions involving multiple distinct data resources (such as a system implementing the JDBC 2.0 Standard Extension), there would be no need to employ Ng's table that maps transactions to connections, which is

the heart of the Examiner's rejection. Thus, the proposed modification would explicitly not result in Appellants' claimed invention. Therefore, a *prima facie* rejection has not been established.

Claim 2:

Ng in view of Felt clearly fails to teach or suggest *wherein in response to the application requesting a connection from one of the plurality of data sources, a data source ID manager is configured to ascertain the identity of the data source from which the connection was requested and determine whether the identity matches the identity of any other of the plurality of data sources.*

The Final Office Action cites Ng's adapter 523 and text found in the second paragraph of column 4, asserting that "adapter 523 determine connection association" without further elaboration. The Examiner has again completely ignored the wording of the claim. Claim 2 does not recite "determine connection association." As explained above, cited table 60 maps global transaction identifiers to the physical database connections with database 601. There is no teaching in Ng of a data source ID manager for ascertaining the identity of the *data source from which the connection was requested and determining whether the identity matches the identity of any other of the plurality of data sources*. Appellants' data source is an entity configured to *provide connections* with the plurality of distinct data ***re**sources*. Appellants' data *source* is not the same as Appellants' data ***re**source*. Ng does not compare identities of various data *sources* as recited in claim 2. When a component of a transaction requests a connection to the same database 601, Ng simply checks table 60 to determine whether there is an existing physical connection to same database 601 that is already associated with the component's transaction. There is no *data source ID manager configured to ascertain the identity of the data source from which the connection was requested and determine whether the identity matches the identity of any other of the plurality of data sources*. Rather than responding to the substance of the foregoing remarks, the Examiner's Answer simply refers again to Ng's table 60, asserting "The global transaction identifier with associated

physical data sources and connections are checked for matches." The Examiner again fails to grapple with what is actually recited in Appellants' claims.

Claims 12, 15, 16, and 18:

Ng in view of Felt clearly fails to teach or suggest *ascertaining an identity of a data source associated with a request for a connection, wherein the data source is configured to provide the connection to one of a plurality of distinct data resources, and wherein said identity is unique to said one of said plurality of distinct data resources*, and *comparing said identity of the data source requested to provide the connection with respective identities of multiple data sources with existing connections, wherein the identity of each of the multiple data sources is unique to a specific one of said plurality of distinct data resources*, as recited in claim 12.

The Examiner has not fully addressed the limitations recited in Appellants' claims 12 and 18. The Examiner rejected those claims on the same basis as claim 1. However, claims 12 and 18 are not worded the same as claim 1. **Therefore, a *prima facie* rejection has not been stated for claims 12 and 18.**

Appellants' arguments presented above regarding claim 1 prove that Ng in view of Felt does not teach or suggest *multiple data sources providing connections to one of a plurality of distinct data resources,* nor *identities for the multiple data sources which are unique to a specific one of the plurality of distinct data **re**sources*. Moreover, as explained in the arguments regarding claim 1, Ng's table 60 maps *transaction identifiers* to *physical database connections* to a single database 601, which has nothing to do with *ascertaining the identity of a data source associated with a request for a connection to a data **re**source, where the data source is configured to provide a connection to one of a plurality of distinct data **re**sources, and comparing the ascertained identity of the data source with respective identities of multiple data sources with existing connections.* Appellants reiterate that Appellants' data *source* is not the same as Appellants' data ***re**source*. The Examiner's Answer fails to respond to the substance of the foregoing

remarks, choosing instead to repeat verbatim remarks made in the Examiner's Answer regarding claims 1 and 2. Nor does Felt have any relevance to these aspects of Appellants' claimed invention. Thus, the combination of Ng and Felt clearly does not teach or suggest Appellants' invention as recited. Therefore, a *prima facie* rejection has not been established.

Claims 17 and 21-23:

Ng in view of Felt clearly fails to teach or suggest *receiving a request for a connection with a participant in a transaction; ascertaining an identity of a local data source associated with the request; attempting to identify a data source that is already participating in the transaction whose identity matches the identity of the data source associated with the request, wherein said attempting comprises comparing the ascertained identity to identities for a plurality of data sources, wherein each of the plurality of data sources is configured to provide a connection with one of a plurality of distinct data resources, and wherein each identity is unique to one of the plurality of distinct data resources; sharing an existing connection associated with the identity if a data source with a matching identity is found; and providing a new connection if no data source with a matching identity is found.*

The Examiner has never fully addressed the above limitations. Instead, the Examiner rejected claims 17 and 23 on the same basis as claim 1. Claims 17 and 23 are not worded in the same way as claim 1. **Therefore, no *prima facie* rejection has been stated for these claims.**

Substantial portions of the arguments presented above regarding claim 1 also apply to claims 17 and 23. For example, the arguments presented above in regard to claim 1 prove that Ng in view of Felt does not teach or suggest *a plurality of data sources configured to provide a connection with one of a plurality of distinct data resources*, nor *identities for the plurality of data sources which are unique to a specific one of the plurality of distinct data resources*. Moreover, as explained in the arguments regarding

claim 1, Ng's table 60 associates transaction identifiers listed in the left column with corresponding physical connections to a single database 601 listed in the right column, which has nothing to do with *ascertaining an identity of a local data source associated with a request for a connection with a participant in a transaction, and attempting to identify a data source that is already participating in the transaction whose identity matches the identity of the data source associated with the request, where each of the data sources is configured to provide a connection with* ***one of a plurality of distinct data resources****, and comparing the ascertained identity of the local data source to identities for a plurality of data sources*. Nor does Felt have any relevance to these aspects of Appellants' claimed invention. Thus, the combination of Ng and Felt clearly does not teach or suggest Appellants' invention as recited. Accordingly, a *prima facie* rejection has not been established. The Examiner's Answer refers once again to the operation of Ng's Adapter 123, as described above in regard to claim 1, including determining whether a physical connection is already associated with the requesting component's transaction, creating a physical connection if none already exists, and recording the new connection in table 60. As explained in the foregoing paragraphs regarding Appellants' preceding claims, the operation of Ng's adapter has no bearing on the various limitations recited in Appellants' claim 17.

Second ground of rejection:

The Office Action rejected claims 6, 7, 13, 14, 19 and 20 U.S.C. § 103(a) as being unpatentable over Ng in view of Felt and Yousefi'zadeh (U.S. Publication 2004/0030739). Appellants respectfully traverse this rejection for at least the reasons given above in regard to the corresponding independent claims.

With regard to all of the claim rejections, Appellants observe that the Examiner's remarks appear to be directed at notions whose connections with the actual limitations recited in Appellants' claims exist only in the mind of the Examiner. The Examiner fails to address what is actually recited in the claims.

CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-23 is erroneous, and reversal of the Examiner's decision is respectfully requested.

The Commissioner is authorized any fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-14900/RCK.

Respectfully submitted,

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